KEYSTONE INDUSTRIES
WINDOW & SCREEN SYSTEMS, INC.

105 Mahoning Avenue • New Castle, PA 16102
Phone: (724) 658-0500 • Fax: (724) 658-0589 • www.keystone-industries.com

Mr. Richard Karney, March 26, 2003

Dear Mr.Karney,

Keystone Industries, is an aluminum window manufacturer located in New Castle, Pennsylvania. We have developed a window system made of aluminum, that meets the ENERGY STAR requirements in a residential size. The way we accomplished this is rather simple, we incorporate the same thermal break system that is commonly used throughout the world.

In the past the US market would not embrace the newer thermal break systems that are commonly used all over the globe, due to the increased cost over the old system. However that was when we felt we had an endless supply of energy and building the cheapest product was the driving factor. With the growing need to conserve our energy we all must look within our own industries to design and build more efficient products. Now that many companies are converting to the more efficient systems, more options are becoming available and costs are dropping rapidly.

The theory that the increased energy to make high performance glass will out weigh the energy saved by its thermal properties is a classic "smoke and mirrors" the U-Value of a fenestration product is an averaging process of approximately twenty-five thermocouples. The readings from the glass, is always the best numbers and the ones from the aluminum frames are the worst. The philosophies of many manufacturers is, take the area that already demonstrates the best performance and make it better to increase your average

. The Europeans on the other hand have chosen to improve the thermal performance of the overall unit by improving the readings that are the poorest of the twenty-five, which drag down the average. One interesting result of our designs is a U-Value of .40 was achieved using dual glazing with one coat of low-e in a 40" X 40" test size. Should the thermal test size for all commercial products be raise to 4'X 6'this product would have achieved a U-Value of .35 or better. As for the argument that ENERGY STAR is not taking in to consideration the Solar Heat Gain Coefficient. All of that argument goes away when you don't rely on the glass to compensate for the poor performance of the frame material.

Only through market demand, via specifiers requiring maximum U-values, will companies design windows with thermal performance in mind. If bidders were required to list the thermal performance of the window system at time of bid, decision makers would be able to evaluate which product will cost more over a short amount of time. A U-value change from .51 to .32 can equate to a $6,000.00 savings over one year for a small school job in the northeast states.

In closing I invite you to check out our product at www.keystone-industries.com and or call me at 800.648.8341 or e-mail me at michael1@keystone-industries.com to discuss any of the info pertaining to aluminum windows. I really do feel that the American's deserve high performance windows in the schools that are being funded by their tax dollars, in order to keep future operating expenses down and to help keep the environment health by reducing the amount of fossil fuel consumption.

Respectfully
Michael P. DeRosa Jr.
President